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ON THE "HERBARIUS" AND
"HORTUS SANITATIS."

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"HORTUS SANITATIS."

A PAPER READ BEFORE THE BIBLIOGRAPHICAL SOCIETY,
JANUARY 21, 1901.

BY

JOSEPH FRANK PAYNE, M.D. OXON, F.R.C.P.

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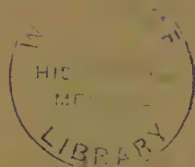
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ON THE "HERBARIUS" AND "HORTUS SANITATIS."

By JOSEPH FRANK PAYNE, M.D. OXON, F.R.C.P.

(Harveian Librarian to the Royal College of Physicians.)

Read 21 January, 1901.

HE object of this paper is to describe the earliest printed books in European literature devoted to the illustration of Natural History; to fix the date and order of the several works known by the names of *Herbarius* and *Hortus Sanitatis*; to show their connection with one another, and with some other works of the same class.

The materials for this essay have been mainly derived from actual inspection of the books themselves; but as some of the editions are inaccessible in this country, I have had to refer to standard bibliographical works such as those of Hain, Pritzel (*Thesaurus Literaturæ Botanicae*), Proctor, and others. A special acknowledgment is due to the valuable work of Dr. Ludwig Choulant, entitled: *Graphische Incunabeln für Naturgeschichte und Medecin. Geschichte und Bibliographie der ersten naturhistorischen und medicinischen Drucke des XV und XVI Jahrhunderts, welche mit illustrirenden Abbildungen versehen sind.* Leipzig, Weigel, 1858. (Reprint from Naumann's *Archiv für die Zeichnenden Künste, Jahrgang III.*) This learned and most accurate writer was a physician, a botanist, and a

bibliographer. His work is the only one which gives a full account of the history and bibliography of the works in question, of which he first established the true order and relations; and as regards the books which he had himself seen, his descriptions are absolutely trustworthy. To this work the present memoir is largely indebted.

The books of which I am about to speak originated, and were nearly all printed, in Germany, the editions printed in other countries being copied from productions of the German presses.

There was, however, one small book with botanical figures, printed in Italy, which has no connection with the German *Herbals*, but which it may be desirable to speak of first, as its history may perhaps throw some light upon that of the German books. I refer to the *Herbarium* of Apuleius Platonius, printed at Rome, probably soon after 1480, by Philippus de Lignamine. It is a small quarto beginning with a dedication, in some copies to Cardinal F. (or D. F.) de Gonzaga, in others to Cardinal Juliano de Ruvere. This, with a Table of Chapters, occupies four leaves (in my copy; perhaps there should be six). On the next leaf is the title, in this form:—"Incipit || Herbarium || Apuleii Plato||nici ad Mar||cum Agrip||pam"; these words being surrounded by a garland of classical design. Then follow 131 chapters each with a figure of a herb; occupying 101 leaves, ending with a register of the quires and a blank leaf. In all 107 (? or 108) leaves (*see* Hain,* 1322). It has no date or imprint properly so called.

The editor and printer, Joh. Philippus de Lignamine, was physician to Pope Sixtus IV. He found this book, he says, in manuscript, in the library of Monte Cassino, and thought it worth printing, with figures evidently copied from those of the original MS. As to its date, Mr. Proctor refers the book to the second press of Joh. Philippus de Lignamine, of which

* Choulant's other bibliographical works, viz.: his *Geschichte und Bibliographie der anatomischen Abbildung*, 1852; *Handbuch der Bücherkunde für die ältere Medicin* (2nd ed., 1841); and *Bibliotheca Medico-historica*, 1842, are still the standard works in their respective subjects, but do not aim at the minute detail of the *Graphische Incunabeln*.

[HERBA PLANTAGO.]



1, From *Herbarium Apuleii Platonici*. Figure of Common Plantain, with a Scorpion and a Snake.

dated examples were printed about 1482 and later. The dedication to Cardinal de Gonzaga may perhaps throw some light upon the point. There were several Cardinals of the Gonzaga family; this particular one is said to have died in 1483†; though I do not vouch for the date. If so, the book must have been printed before 1484, which is the date assigned by Hain, and would be a little earlier than the first German work with figures of plants, dated 1484, of which I speak later. Possibly de Lignamine, after Cardinal Gonzaga's death, dedicated the remainder of the impression, or a new imprint, to Cardinal de Ruvere, for in my own copy as in that in the British Museum, both of which have the Ruvere dedication, the printing of the preliminary matter is very confused.

The text of this work, without figures, was reprinted by Wechel at Paris, folio, 1528; in the Aldine collection of Latin medical writers, 1547, and several times elsewhere.

The name Apuleius Platonicus is possibly fictitious. Nothing is known of the writer (who must not be confounded with Apuleius Madaurensis, author of the *Golden Ass*), but the composition is believed by some to go back to the fourth or fifth century, though it may be much later. The earliest known MS. appears to be of the ninth century.

The chief interest of the book lies, however, in its figures. There are numerous Latin MSS. of the work, chiefly in Italian libraries, but two in the British Museum. It exists, translated into Anglo-Saxon, in the splendid Cottonian MS. of the Museum, printed by Mr. Cockayne in his *Anglo-Saxon Leechdoms*. All these MSS. so far as I know (and I have examined several in the Laurentian Library at Florence, as well as in the British Museum) contain the same series of coloured figures, which were the originals of de Lignamine's rude cuts. Now the Anglo-Saxon MS. is of the eleventh century, and must have been translated from a still older Latin codex, so that the original figures go very far back. There

† Choulant, *Bücherkunde für die ältere Medicin*. 2nd ed, 1841, p. 213.

HERBA ORBICVLARIS. I. RAPVRAe



2. From *Herbarium Apuleii Platonici*.

are similar, though not identical, figures in old Latin MSS. of a treatise, *De Herba Vetonica*, attributed to Antonius Musa, in others bearing the name (evidently fictitious) of Dioscorides, and similar works in late Latin literature.

These figures again have a general resemblance in style to, though no identity with, those of the celebrated MS. of Dioscorides at Vienna (5th century), a few specimens of which have been printed.† Some interesting figures of this class, from early MSS., have been lately published in the fine work of Sig. Piero Giacosa, *Magistri Salernitani nondum editi*, Torino, 1901.

All these constitute a school of botanical illustration coming down certainly from late Roman art; but to which it would be dangerous to assign even an approximate date.

The characteristics of this school are :—

- 1.—The figures of plants are formal, generally drawn with complete bilateral symmetry. Thus they occupy square or oblong spaces, and have a decorative rather than naturalistic effect.
- 2.—They have the appearance of not being taken directly from nature, but rather of being diagrams, drawn by an artist who generalized his knowledge of the object.
- 3.—Serpents and other animals, and in the grander MSS. human figures, are sometimes introduced, being often drawn with much grace and vigour, though not naturalistic. Most of these figures are of the venomous animals against whose bites or stings the herbs were useful.
- 4.—Comparing different series of figures, we see that one was copied from another, and degraded in the process. The original figure became quite traditional, copied by a succession of artists ignorant of the original, till it lost all likeness, and became in some cases absolutely false. Mr Cockayne thus explains an extraordinary figure

* See Daubeny's *Lectures on Roman Husbandry*. 1857, p. 231.

NOMEN HERBAE OLYXATRVM:



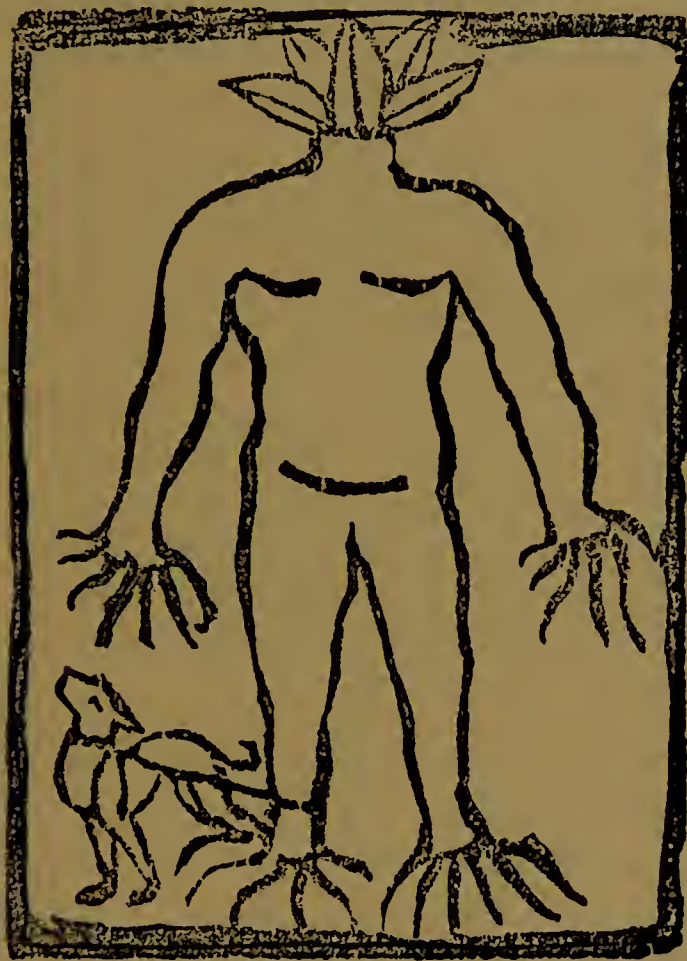
3. From *Herbarium Apuleii Platonici*.

(in the frontispiece to *Anglo-Saxon Leechdoms*) of *Saxifraga granulosa*, a plant with bulbous appendages on its roots. Originally, the roots with their bulbs were represented as under a piece of earth to show that they were underground. An ignorant copyist, not understanding this, inverted the picture, and drew the plant as if its roots were growing into the air, with their bulbs like fruits. In the printed Roman *Herbarium*, the transformation is carried further still, the original bulbs having become little round flowers like daisies.

This school of plant-illustration may be called the school of classical tradition, or shortly, the classical school. Originally, no doubt, it displayed some of the grace of Greco-Roman art ; but on the most favourable view it would show that the classical artists had a notion very different from ours, of how natural history objects ought to be represented. They would have produced a graceful and harmonious, but formal picture, founded on general knowledge rather than on the "impression" of the moment, though doubtless recognizable. Such figures, passing through the hands of a hundred copyists, became more and more conventional, till they reached their last and most degraded form in the rude cuts of the Roman *Herbarium*, which represent not the infancy, but the old age of art. Uncouth as they are, we may regard them with some respect, both as being the images of flowers that bloomed many centuries ago, and also as the last ripple of the receding tide of Classical Art.

Of the execution of the cuts it is not necessary to say anything, except that Weigel, an eminent expert, regarded them not as woodcuts, but as rough cuts in metal, excavated in the manner of a wood block. On this point I express no opinion. I have dwelt on the origin and artistic character of these figures because they have a special bearing upon the early German *Herbals*, of which I shall have to speak.

NOMEN HERBAE MANDRAGORA



4. Figure of the Mandrake and a dog. From *Herbarium Apuleii Platonici*.

THE GERMAN HERBALS.

I.—*Herbarius* ; also called *Herbarius in Latino*, *Aggregator de Simplicibus*, *Herbarius Moguntinus*, *Herbarius Patavinus*, etc.

This is the first work printed in Germany with woodcuts of plants. The edition of Mainz, 1484, was certainly the first printed in Germany. The question of its priority to an edition printed in the Low Countries will be afterwards discussed.

It is a small quarto, having on the first leaf, recto, the title in three lines, thus :—*Herbarius, Ma||guntie impressus || Anno 7c LXXX iv.* Below this the well-known double red shield of Schöffer hanging on a branch. On leaf 2 recto, begins the preface, of which I quote the first lines, as they identify the book in many editions.

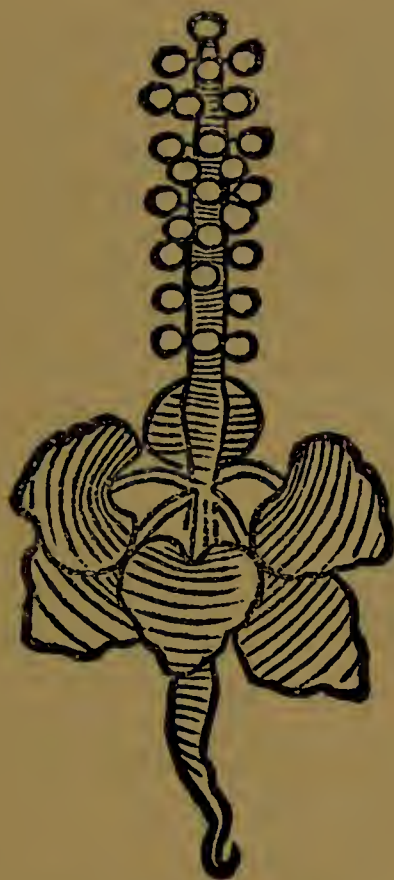
"(R)ogatu plurimorum inopum nummorum || egentium appotecas refutantium oc||casioni illa quod necessaria ibidem ad corpus egrum spectantia sunt cara simplicia et composita, nummisque plurimis comparanda." The author goes on to quote Arnold de nova Villa and Avicenna as to the merits of simple medicines ; and after a few lines occur the following words :—*Ob id presens opusculum suam sumpsit denominationem Aggregator practicus de simplicibus.*

The work is therefore sometimes spoken of as *Aggregator*, but I cannot find that this word was ever used as the actual title in any edition.

The author divides his work into seven parts :—

- 1.—De virtutibus herbarum.
- 2.—De simplicibus laxativis et lenitivis.
- 3.—De simplicibus comfortativis.
- 4.—De fructibus et seminibus et radicibus.
- 5.—De gummis et eis similibus.
- 6.—De generibus salis et mineris et lapidibus.
- 7.—De animalibus et provenientibus ab eis.

† This edition is Hain, 8,444 ; Pritzel, 11,867 ; Choulant No. 1.



5. Aaron = *Arum maculatum*, representing the plant in fruit, with red berries.
Herbarius Moguntiae impressus. 1484.

Leaf 3a begins an index, *Capitula herbarum*, on two leaves.

Leaf 5a begins the series of herbs arranged alphabetically, occupying 150 chapters on 150 leaves, each with a number above a woodcut on the recto., ending leaf 154a.

Leaf 155a begins the remaining six parts of the book without figures, occupying 20 leaves.

Leaf 156 blank. Ends leaf 174b.

Quarto, 174 leaves of 32 lines. Gothic letter. No signatures or numbers. The initials left blank.

This edition must be rare. There is no perfect copy in the British Museum. The only one that I have seen is in the Library of the Royal Gardens, Kew.

This work was thus intended to treat of cheap and homely remedies for the use of the poor, such as could be found in the woods and meadows; and by far the greater part is taken up with herbs. These are all native German or garden plants, and have thus a German as well as a Latin name (the only possible exception is No. 130, *Scicados arabicum*, which is simply called "Von Arabien," there being apparently no German name). No exotic plants are described; but in the latter part of the work, foreign drugs, such as Aloes, Manna, Rhubarb, Myrrh, etc., are mentioned without being described.

The book was very popular, and there were numerous editions, of which I will speak later.

In the meantime, two questions arise about this work:—

(1) Its authorship. (2) The origin of the figures.

1.—The work is, of course, anonymous. It is a compilation from mediæval writers, with some classical and Arabian authors, the latter doubtless quoted from translations.



6. Acorus = Iris. *Herbarius Moguntia impressus*. 1484.

The chief authorities are :

Pandectarius, *i.e.*, "*Pandectæ medicæ*" of Matthæus Sylvaticus (died 1342).

Printed 1480.

Serapion (the younger). End of 11th century. Printed 1473.

Platearius (*circa Instans*). 12th century. Printed 16th century.

Mesua (the younger). 10th or 11th century. Printed 1471.

Albertus Magnus (once only?). 13th century.

Macer Floridus (once). 10th or 11th century. Printed 1477.

Nicolaus Prepositus. 12th century. Printed 1471.

Bartholomeus Anglicus, or Glanville. 13th century. Printed 1480.

Arabians : Avicenna and Averroes.

Classics :—Dioscorides and Galen (not frequently). Pliny and Aristotle (in later chapters).

It will be seen that the writers quoted mostly wrote before 1300, and one only, namely, Matthæus Sylvaticus, belongs to the fourteenth century. There is, therefore, no author quoted who might not have been known to a writer about the middle of the fourteenth century, or say one hundred years before the *Herbarius* was published. It is noticeable that none of the late Latin writers on herbs, Apuleius Platonius, Antonius Musa, etc., are ever quoted.

It seems, therefore, that the book itself supplies no evidence that it was written at the time it was printed, or with a view to publication. It might have been written a hundred years before ; and it seems quite possible that the printer, Peter Schöffer, might have found an old MS. in some library, which, like de Lignamine with the MS. from Monte Cassino, he first committed to the press. It is also quite clear that the work was of German origin.

Choulant has observed that the later portion of the work (that without figures) need not be by the same writer as the descriptions of herbs ; and it seems to me probable that the two parts were not by the same author.

The figures of plants in *Herbarius* have certain notable peculiarities. Many of them show the same stiff drawing and artificial symmetry which

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7. Brionia. *Herbarius Moguntiacus impressus*. 1484.

we have observed in the figures of Apuleius. Even those which have not this character, seem rather like diagrams than drawings from nature. That is, they are rather representations of the artist's conception of the plant, derived from previous knowledge, than his direct impression of the object he was drawing. The essential forms of flowers and leaves are generally indicated in such a way that they can be recognized, but there is hardly any attempt to maintain the proportions of the parts. The flowers are generally greatly exaggerated in size, and the roots, where shown, are conventional in form. In fact, we derive the same impression of a traditional and borrowed art, copied by one artist from another, that we get from the old classical figures of plants. This is the more remarkable when we know what vastly superior pictures of flowers and herbs are to be found in a number of mediæval MSS. In most copies the figures are rudely coloured.

It seems to me, therefore, quite possible that the figures, as well as the text, may have been much older than the date of printing, and may have been copied from some older MSS. now unknown.

This is, of course, only a conjecture. I cannot adduce any instances of such figures, though there are mediæval MS. books of plants with very rough drawings. The figures of *Herbarius* are not borrowed directly from the classical tradition represented by Apuleius. No one can be shown to be identical in the two series. The MSS., if any, on which *Herbarius* was based, could only be discovered in German libraries, and I am not aware that any such have been brought to light, though I should still expect the discovery of some transitional figures.

Nevertheless, the fact remains that there is nothing, either in the text or the figures, to show that both may not have been considerably older than the date of publication.

EDITIONS OF HERBARIUS.

The editions of this work are numerous, some of them are dated, most undated. Of the dated editions none is earlier than 1484; and in the undated editions there is nothing to show that they were printed before this date.



8. Arnoglossus = Plantago. *Herbarius Moguntiae impressus.* 1484.

I will speak of the dated editions first :—

Herbarius Patavinus.—In 1485 appeared an edition printed at Passau by an anonymous printer.

On Leaf 1, recto :—*Herbarius Pataviæ im||pressus Anno domi 7cete||ra* LXXXV.

Leaf 2, recto :—[R]ogatu plurimor || iopū nūmor egētiū appotecas re||

The preliminary portion is precisely the same as in the *Moguntinus*, and arranged in the same way. On folio 5a begins the same series of 150 chapters, each with the figure of a plant, surmounted by a numeral. The concluding parts are also identical in text and arrangement. The book consists of 174 leaves (one f. 156 blank), usually 32 lines in a full page (f. 5b 34).

The cuts are evidently copied from the *Moguntinus*, but are slightly different, and usually reversed. They are numbered 1–150, but Nos. 28, 29, 30 are in different order from those in No. 1. No. 96 (*Nasturtium*) is printed upside down, and so is, in some copies, No. 148 (*Urtica*). This edition may be known from the preceding, even when the title is wanting, by the German names of the herbs, which are sometimes differently spelt, through dialectic variation, and sometimes quite distinct. I subjoin a Table of the first eight :—

Latin.	H. Moguntinus, 1484.	H. Patavinus, 1485.	English Names.
1 Absintheum	Wermut	Wermut	Wormwood
2 Abrotanum	Stawortzel	Gartham	Southernwood
3 Altea	Ybiswortzel	Wildpapel	? Hollyhock
4 Acorus	Gellililien	Gelschwertel	Yellow flag
5 Acetosa	Sueramprich	Sawer ampfer	Sorrel
6 Agrimonia	Odermenich	Hail Allerwelt	Agrimony
7 Alleum	Knobelauch	Knoblach	Garlick
8 Alkakenge	Boberellen	Indentockel	Winter cherry

Another point for identification is a misprint, *de fractibus* for *de fructibus*, on the second page of the preface of the Passau edition, 1485.

The fact that this edition was printed at Passau (or Patavia), and hence sometimes called *Aggregator Patavinus* led to its being confounded with a book connected by name with Padua (Patavium), and called *Aggregator Paduanus de medicinis simplicibus*, the work of Jacobus de Dondis, a writer of the fourteenth century. The name "Aggregator" is the only thing common to the two books, which differ totally in contents and arrangement, as well as in size and appearance when printed. There ought to be no confusion, but as the *Herbarius* has been on this account attributed to Jacobus de Dondis, the error must be mentioned. The printed edition of Jacobus de Dondis is a large folio without figures, with no date, place, or printer's name. It is notable as being one of the productions of the unknown printer who used a remarkable "R." (Hain, *6,395).

Another edition was printed at Passau in the next year, 1486. *Herbarius Pataviæ im||pressus, Anno domini et ce||tera, lxxxvi*, the title differing in the division of the word *cetera* (Hain *8,446, Pritzel 11,869, Choulant No. 7).—I have not seen this edition.

Another edition, described by Hain from an imperfect copy, *8,447, is said also to have been printed at Passau.

UNDATED LATIN EDITIONS OF HERBARIUS.

There are several other editions of this work, some without printer's name, some without place, some without both, which it is very difficult to identify or discriminate. All are on small quarto, similar in arrangement, with the preface beginning "Rogatu plurimorum," referring to the name "Aggregator," 150 descriptions of plants, each with a figure, and supplementary chapters at the end, making 174 leaves when complete.

It is evident that the most distinguishing mark ought to be, as in the dated editions, on the first leaf, but these books being often imperfect, such evidence may be wanting.

The comparison of types I am not competent to speak of, but it appears that though the printer may be thus indicated, it will rarely be

possible to fix the date nearer than within a year or two. Moreover, it is difficult to carry out the comparison except in a large library where the volumes can be placed side by side. Several of these editions are distinguished by the language in which the synonyms of the Latin names are given. German, Flemish, Dutch, and, in one instance, French Translations will be spoken of later.

The important question is whether any of these editions are, as supposed by some bibliographers, earlier than the Mainz edition of 1484. This seems to be, on internal evidence, most improbable, but the external evidence may be examined :—

The edition 8,443 Hain (not seen) is fully described by Choulant from actual inspection (No. 2*). It has on leaf 1, recto, *Herbarius* as title. The rest of the book agrees with the Mainz edition, having 150 figures: a blank leaf in the same place as the other recto. It has only 172 leaves (instead of 174) of 33 lines. The figures, says Choulant, are smaller and inferior in execution, but evidently copied from those of No. 1. The names are in Latin and German.

Another edition (Brit. Mus. I.A. 39,859) has French synonyms for thirty of the herbs, and must presumably have been printed in France. There is no leaf with a title. The usual preface and other preliminary matter occupy three leaves. After this begins the series of 150 figures of herbs—Sig. a, recto, *Absinthium*—*Asuyne*, next leaf *Abrotanum*—*Aurone*, and so on. The second part of the book is arranged as in other editions. There are signatures, but no numbers to the chapters.

Now it is clear that if any copy of the above-mentioned editions had lost the first leaf, or had a blank fly-leaf which was mistaken for a part of the book, it might be one of the dated editions, though described as without date or place.

Therefore, in the absence of further evidence, there is nothing to show that any of these editions was not copied from the Mainz edition of 1484.



9. Calamentum. *Herbarius Moguntia impressus*. 1484.

There are several undated copies in the British Museum. That with press mark I.A. 288 (formerly 448. d. 1), appears to agree in every particular with Schöffer's edition of 1484, except that the first leaf is wanting or replaced by a blank leaf, which appears to me not to be a part of the book†. The copy from which our facsimiles are taken (I.A. 289; Proctor 142) is a duplicate.

The only undated edition with respect to which the question of priority to the Mainz edition could arise, is one attributed to the press of John Veldener at Cuylenborch (Campbell 916; Proctor 9,299; Brit. Mus. copy, I.A. 49,335), which in its general arrangement precisely agrees with the other.

Leaf 1, recto.—*Herbarius* ī Latino cū figuris, and an ornamental wood-block showing a shield with two lions as supporters in a frame.

Leaf 2, recto.—(R)ogatu plurimorum, etc.; *i.e.*, the preface as in other editions, followed by the same preliminary matter, and 150 numbered chapters each with a figure of a plant, the Latin name and synonym in Dutch and Flemish? The second part of the book also agrees with other editions; total—174 leaves of 27 to 30 lines. The figures are nearly all

†This copy from Sir Joseph Banks's Library has in the right hand top corner of first page of preface the signature; Tho. More (part of the "e" cut off by the binder). It is well known that Sir Thomas More was a great gardener, and I presume that this was his copy. On the blank leaf facing this is the name "Jacobus de Dondis" as that of the author. Another MS. note says, "*Herbarius* Maguntiae impressus anno 7c LXXXIV," which I believe to be correct. A more modern note on the fly-leaf points out a typographical defect in the number xlij, above a cut, where the second "j" has no dot above it. The same defect is found in the Kew copy of the *Moguntinus*.

†It is notable that several editions, or at least copies, are described, of which the chief distinguishing mark is to have the first leaf blank; in other respects agreeing with copies which have an imprint on the first leaf. This suggests that the existence of a blank leaf need not, by itself, be the mark of a separate edition, but may show merely that in part of an impression, or in some copies, the imprint was purposely omitted. Possibly this was with a view to the introduction of the book into some other city or foreign country, where foreign books were prohibited or subject to heavy duties, or to make it look more like a manuscript. I take for granted that the blank leaf has been proved to be a part of the book, either by examination of a copy in original binding, or by taking the book partly to pieces; otherwise it is easy to go wrong about a blank leaf.

the same as in the Mainz edition, but reversed. But Cap. 2 Abrotanum is from a totally different drawing, and one or two others differ. The whole book, except the first leaf, is so exactly like the *Moguntinus*, that it is quite clear that either it must have been copied from that, or that must have been copied from Veldener's edition. By comparison of the two books alone, it would be very hard to say which is the true solution. The Mainz cuts appear to me to be slightly better in execution, but Veldener's have a little more work in the way of cross-lines. Some light is, however, thrown on the question by comparison with a Flemish translation, also printed by John Veldener, and dated 1484.

This is an extremely rare, but rather well known book, about which a good deal has been written. It is the earliest known translation. That it was printed by Veldener, at Kuilenborg, is inferred not only from the types, but from two remarkable old woodcuts, found also in the *Spieghel onzer behoudenis* issued by that printer in 1483, and traced, I believe, to a block book. The first (Tree of Jesse) is on verso of leaf 1; the other (Fall of Man) on verso of last leaf. On leaf 2, recto, is *Dye prologhe de oversetters uyt den latyn in dyetsche*. The figures are mostly the same as in the *Moguntinus*, reversed, but some much altered; that of Abrotanum is quite a different design. The chapters are not numbered, though the figures mostly are so, and the arrangement of the book is quite different from the Latin editions. It has 208 leaves (Brit. Mus. copy) without signatures. The colophon has *Ghemaeckt int jaer ons heerī Mcccc. en LXXXiiij*.

The British Museum pressmark for this edition is C. 14. a. 13 (2). (Proctor, 9,158; Campbell, 918; Hain, 8,449).

Comparing the figures in this with those of Veldener's first Latin edition, we see that in the former the cuts appear somewhat black and coarse, being printed on very soft paper; but the blocks are quite perfect. In the Latin the blocks are apparently the same, but more clearly printed. However, several of them show signs of wear, that of *Acetosa*, for instance, showing a serious defect which is not in the Dutch edition. There are also

imperfections in other blocks (*e.g.*, Ameos) of the Latin edition. From these facts we should infer that Veldener's Latin was printed after his Flemish edition, though probably in the same year. But on the other hand the Dutch edition is avowedly a translation from the Latin. Therefore it must have been translated from some other Latin edition, not Veldener's—that is from the Mainz edition of 1484, from which also the cuts were copied, and this retains its position as the *editio princeps*.

The sequence of events would seem to be, that John Veldener obtained a copy of Schöffer's Mainz edition, and had the figures copied (revised) on new blocks, with one or two substitutions. He also had the text translated into Dutch, and published the translation first. Afterwards he brought out the Latin edition with the same blocks. Veldener printed still another Latin edition with the same blocks, but different types, after his removal to Louvain (*see* Campbell). This edition has the first leaf blank, but otherwise agrees very nearly with that described above. It has equally no name of place or printer; but is referred as above on good grounds by Campbell and others†. (Campbell 617.)†

EDITIONS PRINTED IN ITALY.

1491.—Vicenza, by Leonard of Basel and William of Pavia. (Hain, 8,451; Pritzel, 11,870; No. 9, Choulant).

Leaf 1, recto, blank. Leaf 2, recto, woodcut frame with two figures, sitting; under which Arnoldi de Nova Villa; Avicenna || INCIPIT Tractatus de virtutibus herbarum; then Prologue.

† The copy of this edition described by Campbell is now in the University Library, Cambridge.

† Since writing the above, I have consulted a paper by the late Mr. Henry Bradshaw "On the Fifteenth Century Books in the Meyer Collection," Note E (Collected Papers, Cambridge, 1889, p. 227), on the editions of *Herbarius* printed by John Veldener. I am glad to be confirmed by Mr. Bradshaw's authority in the belief that the Dutch translation of *Kruidboeck* was printed before the Latin editions by the same printer, and that the latter were copied from the Mainz edition of 1484. Mr. Bradshaw does not appear to be in agreement with Campbell as to the sequence of the two Latin editions, since he places that with a printed title and Veldener's device (Ed. B) later than that with the first leaf blank (Ed. A); while Campbell arranges them in the reverse order.

5, recto; begin figures with description of 150 plants; end 146, with Usnea Finiunt [sic] Liber vocatur [sic] herbolarium de virtutibus herbarum. Impressum Vincentiæ per Magistrum Leonardum de Basilea et Gulielmum de Papiâ socios Anno salutis Mccccclxxxxi, die xxvii mensis Octob. Deo Gratias. Leaf 155 recto, Particula secunda. Leaf 156, blank. Leaf 172, verso, FINIS, Deo Gratias (4°, r. ch. c. s. et ff. num.). Ff. 172, with signatures.

The figures are for the most part copied from some one of the editions printed in Germany, but two or three are different. They are certainly recut, being finer in execution and the lines more delicate.

1499. Venice. 4°, by Simon of Pavia, called Bevilacqua.

Choulant No. 10* (Hain, 1807, as by Arnold de Villa Nova).

Leaf 1, recto. Incipit tractatus de||virtutibus herbarum.

Leaf 2, recto. No woodcut as in 1491. At top of page Arnoldi de nova villa Avicenna || Below this the preface, *Rogatu plurimorum*, etc.

Leaf 5, recto, begin figures, etc., of herbs to 154 verso.

Leaf 155, recto. Particula secunda. Ends 171 verso.

FINIS || Finiunt [sic] liber vocatur [sic] Herbolarium de virtutibus herbarum || Impressum Venetiis per Simonem Pa||piensem dictum Bivilaquam. Anno do||mini Iesu Christi 1499 die xiiij Decembris. Register, round letter, Sigs. A, a—x, 171 leaves, 28, 27, 37 lines. No German names. Order of plants as in *Herb. Mag.* Figures neatly drawn and tolerably natural.

Choulant No. 11. Another edition. Venetiis 1502. 4°, per Christ. de Pensa (Pritzel, 11,871).

Choulant No. 12. Another edition. Venetiis 1509. 4°, per Io. Rubeum et Bernardinum Fratres Vercellenses (Pritzel, 11,872).

These editions, printed at Venice, have given rise to the error of attributing the *Herbarius* to Arnold de Nova Villa, physician of the thirteenth century, who never wrote any such book. In the original preface the names of Arnold de Nova Villa and Avicenna are quoted, which induced

the printer of the Vicenza edition of 1491 to place on his first leaf a large cut of these two philosophers with their names underneath. In the edition of Venice, 1499, these figures are wanting, the printer apparently not possessing the block, but the names were allowed to remain, and thus appeared to be those of the authors; or, the name Avicenna being regarded as a sort of title, it appeared in the misleading form given by Hain, "Arnoldus de Villa Nova de virtutibus herbarum seu Avicenna." The error of attributing the work to Arnold is peculiar to the Latin editions printed in Italy (not the translations), and appears to this day in the catalogues of Italian booksellers.

ITALIAN TRANSLATIONS.

There are several editions :—

Venice, 1522. 4°, by Alessandro di Bindoni.

Venice, 1536. Sm. 8°, by Francesco di Alessandro Bindone e Mapheo Pasini.

Venice, 1539. By Giovanni Maria Palamides. Pritzel 11,874.

Venice, 1540. Sm. 8°, by the same printer.

All these are in the British Museum. I describe the last.

Leaf 1, recto. Title as follows: Herbolario || volgare Nel quale le virtu de le herbe & mol||ti altri simplici se dechiarano, con alcune || belle aggiunte novemēte de latino || in volgare tradotto. Woodcut, S. Cosmo S. Damian.

Leaf 1, verso: Alli lettori salute (preface of translator).

Leaf 2, recto (sig. a-a ii): Prologo de lo Autore. || Mosso da priegi, etc. (translation of *Rogatu plurimorum*).

Leaf 3, recto (aa iii): Tabula ordinata per alphabeto; ends F 6 recto.

Leaf 6, verso: Delicate Italian wood engraving of Annunciation, like those in some Aldine books (and not unlike Mallermi Bible), enclosed in an ornamental frame of different and rougher work.

Leaf 7, recto (sig. A), begins series of 151 woodcuts; ending fol. 158 (sig. T-8); verso: Finisse la prima parte.

Leaf 159 (sig. V 1) begins second part of 16 leaves, ending on fol. 174, verso: Finisse lo libro de le virtu de le herbe, etc.

Leaf 175, recto: Tabula . . . a ogni egritudine on eleven pages, in two columns; ends fol. 180, recto: Fenisse qui Lerbolario volgare, etc. Stāpato ne la inclita citta di Venetia con accuratissima diligentia per Gioanni Maria Palamides Nell' anno M.DXL. Registro.

The text is a close translation of the Latin *Herbarius*, but there are two additional chapters—Mele, Honey, and Vino e Aceto. The order of herbs is also nearly the same, but begins with Aaron, and has Mele instead of *Matricaria* at cap. 89.

The cuts, however, are copied, rather coarsely, not from *Herbarius*, but from some Latin edition of *Ortus Sanitatis*. Honey is represented by two tree trunks with bees, and Wine, No. 151, which is an addition, is illustrated by a view of a cellar with casks. These cuts belong to the Latin *Hortus Sanitatis* and not to the Latin or the German *Herbarius*. Thus the artists of the Italian translation did not copy the figures of the Latin editions printed in Italy. It is evident also that the Italian artists did not in any way improve upon the rough German originals.†

II.—HERBARIUS ZU TEUTSCH,

or the German *Ortus Sanitatis* (called also the *smaller Ortus*).

This book, which was the foundation of the numerous publications called *Hortus Sanitatis*, was printed at Mainz early in 1485. The name of the printer is not given, but the double red shield of Peter Schöffer at the end assigns it to him. Appearing the year after the *Herbarius*, issued by the same printer, it has been regarded by some authors (*e.g.*, by Jackson and Chatto, *History of Wood Engraving*, and others) as a second edition of that work in German. But really, neither the text nor the illustrations of

† A figure of S. Cosmo and S. Danian is found in an edition of the German *Herbarius* printed by R. Beck, Strassburg, 1521; from an old block used in Gersdorff's *Feldbuch der Wundarznei*, 1517, and other Strassburg books, which may have suggested to the Italian artists the idea of introducing these two patron saints of surgeons into a *Herbal*.

the two books are the same (though one part shows some resemblance), and as the newer work was completed on the 28th March, 1485, and must have taken a long time to prepare, it would have been hardly possible in composing it, to make much use of a book printed in the previous year.

The wide circulation and the celebrity of the later Latin *Hortus* and its successors, has tended to obscure the peculiar and unique position occupied by this fine folio, the publication of which forms an important land-mark in the history of botanical illustration, and marks perhaps the greatest single step ever made in that art. It was not only unsurpassed, but unequalled for nearly half a century.

Postponing the precise bibliographical description, I will give a general account of the book.

It is printed in Gothic character, in long lines, the language German.

The recto of first leaf is blank. On the verso is a large woodcut occupying the whole page, showing a group of thirteen figures, surmounted by a sort of arch decorated with foliage and conventional ornaments. From this hangs a blank shield. A date palm and an orange tree appear in the background. In the group three central figures are prominent. In the middle is an old man with long beard, richly dressed, in the manner in which mediæval artists were wont to adorn an ancient sage. His right hand is on a *closed* book; his left raised in exposition. On his left is another bearded figure, with a turban, dressed in a sort of doctor's robe, holding a plant in his right hand, and resting his left on a *closed* book. On the right of the central figure is another seated, close shaven, with a simple cap or biretta, and dressed in voluminous robes, but not precisely those of a doctor. He holds an *open* book, and is listening attentively to the exposition. His face is not conventional, as are the other two, but looks like a portrait. The ten figures behind have various head-dresses and garments, and appear to represent Arabs, Jews, ecclesiastics and others in mediæval costumes, mostly listening, some appearing to add something to the exposition.



10. Alkekengi = Winter Cherry. *Herbarius zu Teutsch.* Mainz. 1485.

I should conjecture that the central figure is meant for one of the fathers of Greek medicine, either Hippocrates or Galen; the turbaned personage for Avicenna, and the third principal figure, which looks like a portrait, and whose book is *open*, for the author. The remaining figures would bear no special identification. In the foreground are some plants very carefully drawn.

On the recto of second leaf begins the preface, in these words: (*O*)*fft und vil habe ich by mir selbst betracht die wundersam werck des schepfers der natuer*, etc. These words identify this book in the German editions, and in a Latin version are found in all editions of the later *Hortus Sanitatis*.

The preface is throughout so interesting in its matter, and so beautiful in feeling and language, that I should like to translate the whole of it.

On the second page of the preface occur these words: *Und nennen diss buch zu Latin Ortus Sanitatis; uff teutsch ein gart der gesuntheit*. ("Call this book in Latin *Ortus Sanitatis*; in German, a garden of health.")

On the fourth leaf, recto, begins the series of Herbs and natural objects. A large woodcut of *Arthemisia* occupies the greater part of the page, with the name below and description. There are 435 chapters, of which 379 have figures, 56 have none, most of the chapters, *i.e.*, 382, treat of herbs, 25 of animals (among which are Ox, Beaver, Cantharides, Fox, Hare, Elephant) or animal products, 28 of inorganic materials or compounds, such as Bole Armeniac, Terra Sigillata, Butter, Lime, etc. All are arranged in one alphabetical order.

The third part of the book, an index of drugs according to their uses, is arranged like a corresponding part of the *Herbarius*, and may owe something to it.

The fourth part is a short treatise on "the Colours of Urines" and their significance, the first leaf has a well-drawn woodcut of a physician inspecting a glass of urine, while a female patient with a basket awaits his verdict.



11. Cuscuta, Dodder. *Herbarius zu Teutsch.* Mainz. 1485.

The fifth part is a long index of diseases, with reference to the chapters containing medicines appropriate to them.

An alphabetical index of the herbs and other objects concludes the work.

The colophon, in red, states "Disser Herbarius ist czu || mencz gedruck't und geen||det uff dem xxviiij dage des || mercz. Anno M. cccc lxxxv."

It is to be noted that though the name *Ortus Sanitatis*, or Garden of Health, is given in the preface, this was never used as the actual title of the German work, which is always called in the colophon (where one exists) *Herbarius*, while later editions (Augsburg, 1488, 1493, 1496, 1499, etc.) have as a title on the first leaf the words *Herbarius zu teutsch*. Moreover, in two copies which I have seen with old binding, this is lettered on the outside *Herbarius*. It is, therefore, more correctly called *The German Herbarius*, not *Ortus Sanitatis*.

Now to deal with the different parts of the work ; we first speak of the preface.

In this the originator of the book states that observing the wonderful works of God, and His benevolence in providing natural remedies for all the ailments of mankind, he thought he could perform no more honourable, useful and holy work than that of bringing together in one book the virtue and nature of herbs and other created things, and portraying them in their natural forms and colours. For this purpose he caused a master learned in medicine to compile from the great masters, Galen, Avicenna, Serapion and others, a book on the virtues of these medicines. But while he himself was engaged in having them drawn and copied, he noticed that there were many noble herbs which did not grow in German lands. He accordingly interrupted his work till he prepared himself for a pilgrimage to the Holy Sepulchre. And that others beside himself might profit by this journey he took with him a wise and skilful painter. In his company he undertook a long journey through Italy, Greece and other countries to the Holy Land, thence to little Arabia, Mount Sinai, Babylonia, and by Alexandria into

Egypt. On his travels he observed the various herbs growing there, and had them portrayed in their natural form and colour; and on his return completed the work which he calls the Garden of Health, for the use of physicians, laymen, and especially apothecaries.

What appears then is that the originator of the work was a presumably rich man, apparently not a doctor, who had made long travels in the East, partly for the purpose of studying botany and bringing home drawings of plants. Also that the medical portion was compiled under his direction by a learned physician.

The identity of this scientific traveller cannot be established. One thinks of Bernard von Breydenbach, who travelled in the East accompanied by an artist, Erhard Rewich, and published an illustrated account of his journey in 1486. But for various reasons, too long to enter upon, it could not be Breydenbach or any of those who accompanied him on his travels. Doubtless such a pilgrimage was not very uncommonly undertaken by those who possessed the necessary means.

Some have thought that Schöffer, the printer, might be speaking in his own person; but in the preface to the later Latin *Hortus* the originator of the work is spoken of as *nobilis dominus*. The physician who compiled the medical portion was probably one Johann de Cube, who names himself in chapter 76, speaking of "*eyn gewisse artzney dicke mail versuecht an vil enden von mir Meister Johan von Cube.*" This doctor is identified with Dr. Johann Wonnecke, of Caub or Cube, who was town physician of Frankfort at the end of the fifteenth century. Nearly fifty years after, in 1533, the Frankfort printer Egenolph, brought out a *Kreutter Buch* by Eucharius Rhodion, which, in answer to a charge of plagiarism by Johann Schott of Strassburg, he declared to be based upon an old book by Dr. Johannes Cuba, of Frankfort*. The documents have been published, and clearly

* The title is:—*Kreutterbuch von allen Erdtgewachs. Anfenglich von Dr. Johan Cuba zusammenbracht ietzt widerum new corrigirt * * * * durch Eucharius Rhodion * * * Christian Egenolf, Franckfurt am Meyn 1533* (British Museum). But an edition or editions appeared without the name of Cuba.

show that in the sixteenth century Johann de Cube was regarded as the author. Choulant throws doubt upon Cube's authorship; but it seems probable that he at all events took part in the compilation.† It is hardly necessary to say that Johann de Cube had nothing to do with the earlier Latin *Herbarius*.

THE ILLUSTRATIONS.

The woodcuts of this edition are very remarkable. They form a marked contrast with the rude cuts of the Latin *Herbarius*, being in many cases evidently direct studies from nature, and drawn with much skill. Such figures as the Yellow Flag (*Acorus*), the Winter Cherry (*Alkekengi*), and the Dodder, climbing on a plant with flowers and pods, show this clearly enough. They formed the basis of nearly all botanical figures for nearly half a century, being copied into all succeeding editions with ever-increasing badness and degeneration. It has not been sufficiently noticed how far superior are these fine cuts to all those found in later works in German, French, Italian, or English, till a new period of Botanical illustration began with the work of Brunfels, published in 1530. Some of them, representing native plants, are quite comparable to those of Brunfels for fidelity of drawing, though very inferior in wood-cutting.

It will naturally be asked whether the botanical travels of the anonymous originator of the work have left any trace in the illustrations.

There are several figures representing foreign plants, chiefly (if not all) those growing in Egypt, Syria, and the Levant; but it cannot be said that most of them bear any evidence of being drawn from nature, having generally no resemblance to the plants they profess to represent (*e.g.*, Scammony, Rhubarb, Storax).

But there is one of an exotic plant, viz., Senna, brought to Europe chiefly from Egypt, which had to me the appearance of being drawn from the object. But as eminent botanists have drawn the opposite conclusion, I submit to their judgment. It might possibly have been taken from

† Choulant, *Graphische Incunabeln*, p. 39.



12. Acorus = Iris, Yellow Flag. *Herbarius zu Teutsch.* Mainz. 1485.

dried leaves and pods, put together in an ignorant manner. Whether the complete herb was then an article of commerce I am unable to say. The figure of Ginger (*Zingiber*) seems as if it were taken from a growing plant, and is correct enough as a diagram. It grows in Egypt. There is also a figure of an elephant, which must have been taken from life. Other animals (*muscus*, musk-deer) are clearly fabulous. The figure of the Balm Tree professes to show the manner in which the balsam was collected in little cups. *Cassia fistula* (125), has some suggestion of the right kind of plant.

On the whole we must conclude that if there was a travelling artist who drew plants in the East, he either did not know their right names or was a very poor draughtsman. Possibly he was altogether a mythical person.

THE TEXT.

This is arranged on a different plan to that of the Latin *Herbarius*. First are given a good many synonyms, Greek, Latin and Arabic. Then follow statements from "the masters" about the virtues of the drug. The country from which foreign plants come is often mentioned, such as Arabia, Babylonia etc.; but these statements are borrowed from old authors, and do not profess to be based on personal knowledge. More authors are quoted than in the Latin *Herbarius*, but none more modern. It was evidently the compilation of a man of some learning in books.

LATER EDITIONS.

The later editions are very numerous.† In the same year, five months later, a reproduction was printed at Augsburg.

It is a large folio (379 leaves), chiefly in long lines, a few pages only having double columns. The large woodcut of the philosophers is roughly

† It is noteworthy that no later edition appears to have been brought out by the original printer, Schöffer, at Mainz. The same remark applies to the first Latin *Herbarius* (so far as I have been able to trace), and also to the Latin *Hortus*. Probably, as there was no copyright, and these works were immediately printed in other places, there was not much inducement for the original printer to reproduce his own work,



13. Senna. *Herbarius zu Teutsch. Mainz. 1485.*

copied and reversed. The blank shield of the Mainz edition is filled with a pine cone, the badge of the city of Augsburg. The figures are roughly copied and somewhat smaller, but essentially the same, occupying often a good part of the page. Most are reversed.

The colophon of this edition has : Hye hat einend der Herbarius || in der Keyserlichen statt Augsp||urg Gedruckt und vollendet an || montag nechst vor Bartholo||mei nach Christi gepurt M cccc||Lxxxv. (August, 1485).

This edition has been assigned by Hain and others to Anton Sorg, but by Mr. Proctor to John Schönsperger. I am incompetent to speak of types, but must note that it is very different from the subsequent editions printed by Schönsperger, which are all in double columns. The British Museum copy, in old binding, is lettered outside *Herbarius*. [Hain, *8,949; Pritzel, *11,885; Choulant No. 2.]

1486. In this year Schönsperger printed an edition in his own name, differing from the two previous editions in being in two columns. It was the first of a long series of editions by this printer, all very much alike.

The large woodcut is reduced to five figures from the old group of thirteen, these being the foremost. The background is occupied by an apothecary's shop, with a young man pounding something in a mortar. The figures of plants are much smaller, so as to come into one column, and worse executed; a few new figures are introduced. The colophon has : Gedruckt und volendet dieser Herbarius durch Hannsen schonsperger in der Keserglichen || statt zu Augspurg an sent Bo||nifacius tag Anno Mcccc und || in dem Lxxxvi jare. (June 5th, 1486.)

It is said to have 257 leaves of 42 lines, with signatures. I have not seen a copy, but it closely agrees with later editions which I have seen.

[Hain, *8,951; Pritzel, *11,887; Choulant, No. 6.]

Later editions were printed by Schönsperger in 1487 (?), 1488, 1493, *1496, 1499, one of which I have.

There are also other undated editions which I cannot here describe.†

TRANSLATIONS OF THE GERMAN HERBARIUS.

This work was frequently copied and translated into other European languages, and became the most widely distributed Herbal, having a greater popularity than either its predecessor or its successor.

FRENCH TRANSLATIONS.

The earliest known is called "Arbolayre," the word being evidently a corruption of Latin Herbolarium, or Italian Herbolario. The first edition is an exceedingly rare book, supposed to have been printed at Lyons. A copy lately occurred for sale in London, of which I made a hasty inspection.

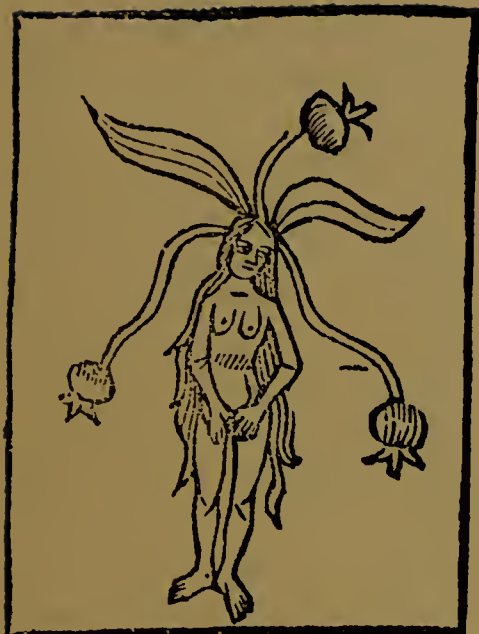
† It has been supposed that some of the undated editions were printed earlier than 1485, and they have been referred to about 1476 or 1473. Dr. Copinger in his *Supplement to Hain* refers to the British Museum copy of an undated edition of the German *Herbarius* (546, i. 6), which is, I think, clearly copied, though indirectly, from the edition of 1485. The group of personages on first leaf is a rough copy of the original, and reversed, having 12 figures instead of 13, and the details are simpler. The text is in double columns, and the figures therefore smaller; they are 435 in number and mostly reversed, but some are from quite different designs. They could not, however, have been directly copied from the 1485 edition for the following reasons. The blocks have the number of the chapter cut in the wood, which is not the case in the original. Moreover, in the first twenty or so cuts, these numbers are written backwards, showing that the artist, in copying from an older block, had forgotten to draw the numerals reversed, so as to appear correct in the impression (this precaution would not be necessary with the figure itself). After Cap. 22, the numbers read correctly. It is barely possible that the artist copied the 1485 blocks and added the numbers, but much more probable that he copied from blocks which already had the numbers upon them. In this case it would not be the first or the second copy (in which the figures would have come out *not* reversed), but a third copy, or fourth edition at earliest. The origin of the supposed date, 1473, or *circa* 1476, appears to be as follows. On the first leaf is written, in an old hand, A° 1473. But this treatise is the first in a volume lettered on the back *Tractatus Medici*, containing several treatises, the last of which is *Mellinger de Infantum Morbis*, which has, in the colophon, the printed date 1473. Evidently the possessor of the volume, looking at the end, saw this date, and supposing it to be the date of the whole volume, wrote it on the first leaf; hence the mistake. When or where this edition of *Herbarius* was printed I cannot say, but it is not one of Schönsperger's double-column editions, and does not precisely agree with any entry in Hain. Mr. Proctor refers this edition to the press of J. Reinhardt, or Grüniger, of Strassburg (No. 497). See Dr. Copinger's *Supplement to Hain*, Part II, 3178.

It is said that the only other copy known is in the Bibliothèque Nationale at Paris. The title is "Arbolayre contenāt la qualitey et virtus proprietez des herbes, gōmes, et simēces extraite de plusieurs tratiers de medicine cōment dāvicene, de rasis, de constatin de ysaac, et plateaire, selon le cōnu usaige bien correct." It is a folio, gothic letter, in double columns, of 39 lines (? number of leaves). No place or name; said to be printed by M. Husz at Lyons *circa* 1485; probably later, but most likely before 1491.

On verso of title is a good copy of the large group of botanists from the German *Herbarius* of Mainz, 1485. It is essentially a translation of that work, but taken from a later edition. The cuts are generally the same, but smaller. The chapters are not numbered. Some of the cuts, at all events, must have been printed direct from German blocks, as they have a number in roman figures printed on the block itself; but the earlier cuts are mostly not numbered. This fact shows that the *Arbolayre* was not copied from the original *Herbarius* of 1485, nor from any of the Augsburg dated editions. It would only agree with editions without place or printer's name, one of which is described by Hain (8,947), and Pritzel (11,883), and Choulant (No. 4); another by Choulant (No. 3). The latter writer gives a full description, and mentions the peculiarity I have noted. Choulant describes another nearly identical edition from the Royal Library, Dresden. On the whole, the Strassburg edition mentioned above (Proctor 497) seems as likely as any to have been the original.

However, the work evidently has no originality, the text being translated, and the blocks, many, if not all of them, cut in Germany. Perhaps the only mark of individuality is that the French translator rejects the story that the male and female species of mandrake resemble man and woman respectively. He says that figures like these are made artificially. Accordingly, he gives no figure of the female mandrake.

There were probably later French editions with the title *Arbolayre*, but I have not been able to see any. Essentially the same work appeared,



14. THE FEMALE MANDRAGORA ; UVA = GRAPE ; ZINZIMBRE = GINGER ;
TRIFOLIUM = CLOVER. *Le Grant Herbar.* Paris. Jehan Janot. (?1539.)

however, in many editions with the title *Le Grand Herbier*. This title would be chosen to distinguish it from the little Latin *Herbarius*, which, though never translated into French, was, as I have said, once printed in Latin with French synonyms.

Many editions of the *Grand Herbier*, some in folio, some in quarto, are mentioned in books. I have not seen any, except a late quarto edition which I possess. The title (in red and black) is:—*Le grant Herbier en frâcoys contenât les qualités Virtus, et pprietez des Herbes, Arbres, Gômes, Semêces Huylles et pierres precieuses Extraict de plusieurs traictez de medecine, Comme de Avicēne Rasis, Cōstantin, Isaac, Plataire et ypocras selō le commun usaige. Iprime nouvellemēt a Paris. 47. xxxix. (Two woodcuts).*

On les vend a Paris, a lenseigne saint Jehā baptiste En la rue neufve nostre dame Pres saïcte Geneviefve des ardans.

This could not have been first printed in 1539; but where or when the first edition appeared I cannot say. The title differs from the title of *Arbolayre* only in adding Ypocras to the list of authorities, and introducing oils and precious stones. The two latter are enumerated in the alphabetical order of plants, as in the old German *Herbarius*.

The colophon states (fol. CLXXVI): *Cy finist le grāt herbier translate de Latin en Francoys. Auquel sont contenues les qualitez vertus et proprietes des herbes, Arbres, etc. . . . imprime a Paris par Jehan Janot Imprimeur et Libraire jure en luniversite de Paris, etc. . . .*

On the verso of this last leaf is the printer's mark of Jehan Janot. ¶ *On les vend a Paris a lenseigne saïct Jehan baptiste en la rue neufve nostre dame Pres saïcte geneviefve des ardā.*

The prologue is not the same as in the old German book, and the words translated from Latin show that something was borrowed from the Latin *Hortus*, but the main part of the work agrees with the *Arbolayre*, though the descriptions are much longer, and no authorities are quoted. The figures are small, and appear to be reductions of those in the Latin *Hortus* rather than those of the German *Herbarius*, but the names are often inaccurately applied.

It thus appears that we have the old German *Herbarius* with matter borrowed from the Latin *Hortus*.

This work was the foundation of the English *Great Herbal*, printed in 1526 and 1527.



15. ORIGANUM. *Le Grant Herbier*. Paris. Jehan Janot. (?1539.)

THE LATIN "ORTUS SANITATIS."

This fine book, the prototype of most of the later editions in Latin, or other languages, was first printed at Mainz by Jacob Meydenbach, 23rd June, 1491. There can be no reason for placing any undated edition earlier.

This book is often regarded as a Latin translation of the German *Herbarius* or *Ortus*, but this is not strictly correct. It is much larger than that, and consists of the following parts:—(1) Prohemium, for the most part a translation of the preface to the German work; (2) a treatise on herbs in 530 chapters; (3) a treatise on land animals in 164 chapters; (4) a treatise on birds in 122 chapters; (5) a treatise on fishes, etc., in 106

chapters; (6) a treatise on stones and minerals in 144 chapters; (7) a treatise on urines; a long therapeutical index of diseases referring to each division of the book separately, and an alphabetical index to each part. It concludes with an epilogue by the printer, Jacob Meydenbach, in which he claims for himself the credit of producing this book, and for the city of Mainz the credit of the invention of printing.

It thus appears that the section on herbs is the only one which could have been borrowed from the German work, and even this, as we shall see, owes very little to it.

The Latin work has on recto of first leaf the title *Ortus Sanitatis*, being the first book in which this name is actually used as a title. On the verso is a full-page cut, showing a group of nine figures, surmounted by an arch, roughly copied from the group of thirteen in the German work, with two small blank shields in the corners. The palm and orange tree are in the background, and the other decorations are rudely imitated. The three principal figures are the same as in the old cut, but reversed; and six other figures from the original group are added.

The next page (Aij recto) begins: *Incipit prohemium presentis operis*; and then in first column the preface beginning: *Omni po||tentis eter||nique dei||tocius naturæ cre||atoris opera mi||rabilia admirā||daique mecum vici||bus iteratis crebrius percogitando revol||vi*—a translation of the sentence Vil und offt etc. This exordium distinguishes all (or nearly all) the later Latin editions.

The rest of the preface is much like the German, but differs in the way of speaking of the originator of the work. It says: *ad idem aggrediendum nom minus me movit, sed et permaxime nobilis quidam dominus qui regna terrasque varias peragrandō videlicet Alemaniam, Italiam, Hystriam, etc. (nearly as in the original) . . . de sepe dictis herbis, animalibus, lapidibus ceterisque ad confectionem medicinarum necessariis, et propter raritatem incognitis magnam accepit experientiam, earum virtutem describens ac earum similitudines sublineamentis convenientibus certisque coloribus effigiare procuravit.*



16. SERPILLUM. *Hortus Sanitatis*. 1491.

That is to say, the originator was the same noble person who had compiled the first book, whose travels are described, but not quite accurately, and who is now said to have collected drawings of animals, stones, and other drugs, which the original author does not state. The list of authorities referred to is somewhat longer. The book was to be called *Ortus Sanitatis*, and to be divided into eight parts. The exordium of the German preface is somewhat shortened. We learn here that the original learned traveller was a noble person, which he himself, naturally, does not say; and that he interested himself in this new undertaking.

Whether this was literally true, or whether the reference to the noble author was merely a bit of advertisement, it is impossible to say.

On the verso of this leaf the series of chapters on herbs begins, numbering 530, each with a woodcut. The original had only 379 figures of plants, so that 151 are added. This portion occupies 248 leaves, with signatures A—X and a—m. The cuts are much smaller, occupying half a column (the book being in double column) about 4 in. by 2½ in. Those copied from the original are altered for the worse, though sometimes finer in cutting, and often misunderstood. Thus in the first figure, Aron or Arum, there is in the original a slight ambiguity in drawing, which makes the spadix appear as if it were double. Accordingly in the succeeding versions of the cuts there appears a regular double spadix; a botanical impossibility. In the fine figure of the Yellow Flag of the original, the way in which the leaves wrap round the stem is beautifully shown; this character is quite lost in the copy, and so on. The differences are sometimes such as to suggest that the figures were not copied direct from the 1485 edition, but some intermediate copy in a later German edition. A few are reversed, but most are not so, as compared with the 1485 edition. The new draughtsman, even if clever, was an ignorant copyist. Of the new figures, some are of native plants, and roughly like; others of exotic plants, which appear fictitious; and others, such as Arbor Vitæ and Narcissus, are plainly fabulous.



17. NARCISCUS. *Hortus Sanitatis.* 1491.

We have, however, some curious cuts of the kind called "*genre bilder*," that is, figures of men or objects illustrating the subject. Under *Starch* (*Amidun*), we have a man pounding something in a mortar. Under *Acetum*, a cellar with casks; under *Aqua*, a fountain, with a grotesque monkey on the top; under *Caro*, meat, a butcher, and so forth.



18. CEPHOS ET CEMBROCOTA. *Hortus Sanitatis*. 1491.

One peculiarity of some cuts is that there is a combination of the white line on black, with the black line on white (*e.g.*, 38, 43, 54, 77, 138). The cutting is chiefly in outline, with occasionally a little shading—never cross hatching.

On the whole, though there may be some advance in the art of wood-cutting, these figures show a grave deterioration in the art of botanical illustration, as compared with the German *Herbarius* of 1485, which remains the high water mark in figures of plants up to 1530.

The text of the Latin book is very different from that of the German. Each chapter begins with a description of the plant, its synonyms, and often something about its geographical origin, taken from various authors. The medicinal virtues are described in a separate section headed "Operationes," and divided into paragraphs headed by letters of the alphabet,



19. VULTUR. *Hortus Sanitatis*. 1491.

at much greater length than in the older work. There is little resemblance, except in the synonyms; but of course the same authorities are often quoted in both works. In two places at least (Mandragora, 275, and Pæonia, 338) there is a definite quotation *ex herbario*, which does not mean the German *Herbarius* or the Latin *Herbarius Moguntinus*, but the *Herbarium* of Apuleius Platonius, in the corresponding chapters of which the quotations

may be recognised. This shows that the later compiler had the work of Apuleius before him. The Latin text, if printed separately, would be three or four times as long as the German.

It follows that though Johann de Cube may have been the compiler, or joint compiler, of the German *Herbarius*, he was in no sense the author of the Latin *Ortus Sanitatis*.

The part relating to animals begins (on recto of Sig. n. 1) with the title in large letters: *Tractatus de animalibus || vitam in terris ducentium (sic)*. On the verso is a full-page woodcut, representing a doctor discoursing with two bearded men, and a group of animals. On the next page begins the treatise on animals, with an interesting cut to illustrate "Homo," of a doctor demonstrating the form of a naked man. This cut is not reproduced in any later edition.

The figures of domestic animals are tolerably good; those of foreign beasts less so; the old elephant of the German *Herbarius* appears again, now perched in an uncomfortable position on the top of a mound. But the purely fabulous character of many of the beasts named, allows the artist's imagination free play.

The treatise on Birds begins (on leaf preceding sig. v. 1) with the title *Tractatus de Avibus*, and on the reverse a full-page woodcut showing the doctor in conversation with another person, and also a number of birds. The figures of real birds have a good deal of character, but there are many fabulous. Some good genre figures, such as a falconer, a woman with a basket of eggs, and so on, are introduced.

The treatise on Fishes begins on aa, preceded by a full-page cut of fishes and marine monsters, about which two persons, the doctor and some ancient sage, are conversing. In the figures of fishes, mythology, as might be expected, holds an important place, curious stories being borrowed from Albertus, Isidor, "Phisiologus," and others.

This part ends on folio ee ij, and on the other side of the leaf is the large cut which serves as frontispiece to the *Treatise on precious*

stones. It shows two doctors or philosophers in consultation, with other figures of dealers in gems seated at tables, and their customers. Since the actual gems and minerals do not readily lend themselves to pictorial representation, each chapter is illustrated with some genre figure, such as a lapidary with a table before him, or a miner, or a housewife putting coals



20. BORAX. *Hortus Sanitatis*. 1491.

on the fire, or a man extracting the precious jewel which the toad carries in his head. These lively scenes make this the most amusing part of this delightful old mediæval picture-book.

The last treatise is on Urines, *Tractatus de Urinis*, and is considerably longer than, as well as different from, that of the German *Herbarius*. It is introduced by a full-page cut, showing doctors examining specimens and

pronouncing opinions upon them, while patients and servants fill up the scene. At the end of this treatise is a final full-page woodcut, showing three doctors and several patients—one in bed. This is evidently a summary of the whole work.

Then follow the two indices, and finally the epilogue and colophon of Jacob Meydenbach, from which I must make a quotation:—

"Quem quidem librum omni diligentia collectum et elaboratum intelligibili caractere propriis impensis Jacobus Meydenbach civis moguntinus luculentissime impressit summamque adhibuit diligentiam operamque maximam ut singule herbe et singuli flores suos naturales colores et animalia ipsa volucres pisces denique et alia in hoc præclarissimo opere descripta suas sicuti eas natura produxit haberent effigies et figuras. Hoc modo lectitanti prodesse ac intuentem oblectare impressor ipse Jacobus voluit. Impressum est autem hoc ipsum in inclita civitate Moguntina, que ab antiquis aurea Moguntia dicta, ac a magis id est sapientibus ut fertur primitus fundata, in qua nobilissima civitate et ars et scientia hec subtilissima caracterisandi seu imprimendi fuit primum inventa. Impressum est inquam sub Archipresulatu Reverendissimi et Dignissimi principis et domini domini Bertoldi archiepiscopi Moguntini ac principis electoris cujus felicissimo auspicio graditur, recipitur et auctorisatur. Anno salutis Millesimo Quadringentesimo Nonagesimo primo. Die vero Jovis vicesima tertia mensis Junii."

The whole work consists of 453 leaves of 47 lines in double columns, gothic letter, with seven full-page woodcuts, and about 1,066 (as nearly as I can make out) smaller cuts.

The signatures are A-Z, a-z, aa-ll, i, v, A-E.

This is, therefore, the most complete edition, and the central one of the whole series of books called *Hortus Sanitatis*. It is far more complete than its German predecessor, and was the model from which all later editions were copied.

As to its authorship, it is anonymous ; and, indeed, such a work could hardly have a single author. It had no doubt an editor, who was probably the printer himself, and the book must therefore be regarded as a publisher's enterprise. The doctors, draughtsmen, and wood-cutters—probably several of each—who co-operated are never named, and Meydenbach evidently claims all the credit for himself.



21. CALLAICA. *Hortus Sanitatis*. 1491.

LATER EDITIONS.

These are numerous, but probably all the Latin editions can be enumerated. No second edition was printed by Meydenbach himself.

First we place an edition, No. *8,941 Hain, without date, name of place or printer, which has been generally supposed to have been printed at Strassburg, but which Mr. Proctor refers to Cologne. I have no

knowledge of types, but would observe that the *large* woodcuts which it contains are of the Strassburg school, and are found in other books printed by Johann Grüninger, showing a peculiar physiognomy with long hair, and (in one at least) a chequered pavement. They are:—a large cut (verso of first leaf) of a doctor and three scholars; a rough figure of a skeleton (leaf 203, verso) and the interior of an apothecary's shop with two figures (leaf 333, verso), which replaces the frontispiece to the Treatise on Urines in the 1491 edition. The impressions from these blocks are quite fresh and brilliant.

F1, recto: *Ortus Sanitatis* || De Herbis et plantis || De animalibus et reptilibus || De Avibus et volatilibus || De Piscibus et natatilibus || De lapidibus et in terre venis nascentibus || De Urinis et earum speciebus || Tabula medicinalis cum directo || rio generale per omnes tractatus ||

F1, verso: Large woodcut of doctor and three scholars.

F2, recto (Sig. A2): Prohemium [o]mnipotentis || eternique dei || totiusnati || F 360 recto at end: Finis. Folio. Goth: char, 2 columns, 55-54 lines. 360 leaves. Signatures.

(Choulant, 15; Hain, *8,941; Pritzel, 11,876.)

My copy of this edition has the inscription in MS.: "Anno Domini M CCCCLXXXVIJ, xii. kalend Novembris. Regnante Inclyto Principe Augustino Barbadiense. Empt. 2 guld, 10 pfenn."

Therefore it must have been printed between 1491 and 1497.

The woodcuts of natural objects are evidently copied from the edition of 1491, somewhat altered; the animals with more shading, and sometimes with the addition of a background. Most of the animals are enclosed in a frame. The chapters on herbs end fol. 202 recto. Fol. 203 recto, *Tractatus de* || *Animalibus*; 203 verso, skeleton.

The large cut at the beginning is found in editions of the *Distillirbuch* of Hieron. Brunsschwick, printed by Johann and afterwards by Bartholomew Grüninger, and the block was used in the Grüninger press up to at least 1532. The same is true of the cut of the apothecary's shop.

The block of the skeleton is found in Laurentius Phriesen's *Spiegel der Arznei* (Strassburg, 1519. and earlier), and in some editions at least of Brunsschwick's *Surgerie*.

Some of the woodcuts of plants were also used in early editions of Brunsschwick's *Distillirbuch*.

It is, therefore, evident that the blocks originated in Strassburg, and if they were taken anywhere else on loan, were brought back again.

Another edition (Hain, 8,943 ; Choulant, 16 ; Pritzel, 11,878), which I have not seen, appears to differ chiefly in the title, where the word "directorio" is not divided.†

There is again a third edition (Choulant, No. 17), closely resembling these, which I have seen in London, in which the large woodcut of the apothecary's shop, which comes before the Treatise on Urines in the two last-mentioned editions, is placed at the beginning of the book, though repeated later. The title is somewhat differently printed : *ORTus SANitatis*, etc. After the Herbs, on leaf 203 recto, the title Sequuntur alii Tractatus ; and below this four small cuts, one from each of the remaining divisions of the work : beasts, birds, fishes and stones, with titles. The woodcut of the skeleton follows. Before the Treatise on Urines (leaf 303 recto) is a large woodcut representing a patient in bed, with three other persons, which is found in several other Strassburg books. On verso, the first woodcut repeated. The smaller figures are mostly from the same blocks as the editions last mentioned, but evidently more worn—some are different. They generally resemble the two other editions, containing 360 leaves of 55 lines, with signatures (not in Hain or Pritzel ; Choulant, 17).

The three editions above mentioned are evidently closely connected, and probably came from the same press, the woodcuts, large and small, which they contain, being well-known products of the Strassburg school, though the printing is referred by Mr. Proctor to Cologne.

† Choulant refers to a copy of his No. 16, in the University Library at Leipzig, which has the MS. note—1500 Dedi pro isto libro ij. fl. Rhenanos. In Halberstadio 1500, Veneri xxxi et ultima Januarii ; the price agreeing very nearly with that in my copy.

1511. The edition of the Latin *Hortus* printed at Venice in 1511 deserves mention on account of two very fine large woodcuts of the Italian school which it contains. There is also the rude figure of a skeleton, copied from the German editions. The small figures are rough and inferior copies from German blocks. If German blocks were used they must have been from some edition which I have not traced, but I feel sure they are copied from one of the editions above mentioned. It is striking that the art of the Italian draughtsmen and engravers added nothing to the natural history figures, which are worse than in previous editions.

Title. ORTUS SANITATIS, etc. *Colophon*: Impressum Venetiis per Bernardinum Benalium: Et || Joannem de Cereto de Tridino alias da Tacuinum. || Anno domini M ccccc xi die xi Augusti, || Regnante Inclyto Duce Leonardo Lau||redano Venetiarium Principe. Laus Deo || Registrum.

*1517. Another edition has this date, but no indication of printer or of place. The title is printed in red and black, within a frame in the shape of an arch. The woodcut is of an entirely different type to those of the Strassburg school, and is decorated with foliage and figures.

The title is in twelve lines, red and black type: Ortus Sanitatis || De Herbis & Plantis || De Animalibus et Reptilibus || De Piscibus et Natatilibus || De Lapidibus et in terre ve||nis nascentibus || De Urinis et earum speciebus || Tabula Medicinalis || cum Directorio ge||nerali per omnes || tractatus || Anno M D XVII. Sigs. A-Kk vij. Double columns, 59 lines.

The smaller cuts closely resemble those of the undated editions. Choulant thinks they are from the same blocks as his No. 16; but, if so, they are a good deal touched up.

The above are the only complete Latin editions known to me, but very likely there are others. We may now say a word about the translations.

There is not, so far as I know, any complete translation of the Latin *Ortus Sanitatis* into German; but for the confusion of mankind, a portion of it was thus translated and frequently published with the title *Gart der*

Gesundheit; zu Latin *Ortus Sanitatis*, or some similar title, but comprising only the portions relating to animals and stones, wanting in the *Herbarius* of 1485, without any herbs. These imperfect editions were, no doubt, meant to supplement the German *Herbarius*, which, as we have seen, treats only of plants; so that the two together might make a complete *Hortus*, like the Latin edition of 1491.

A work thus composed of the German *Herbarius* and a German translation of the later parts of the *Ortus Sanitatis*, was first published by Johann Priess, of Strassburg, in 1507-9. It began with the preface of the old *Herbarius*, "Oft und vil," and gives the same number of chapters of plants. There is the figure of the skeleton taken from later Latin editions of the *Ortus Sanitatis*.

An edition of 1529, by Joh. Grüninger, Strassburg (which I have not seen), called *Ortus Sanitatis*, states distinctly that the chapters relating to animals and stones are translated from Latin into German, and that the herbs were added "*aus dem Herbario*."

Hence we have the singular title *Ortus Sanitatis*; *Gart der Gesundheit, von allen Tieren, Föglen, Fischen, und edlem gestein*, etc.

The title of the Strassburg edition, printed by Apiarius in 1536, is to the same effect. The so-called "Garden" includes no plants, but only beasts, birds, fishes, and precious stones. My copy is lettered on the binding *Garth der Gesundheit*.

The translations of a so-called *Hortus Sanitatis* into lower Saxon, Flemish, or Dutch all refer to translations of the German *Herbarius* or smaller German *Hortus* (1485).†

The only real and complete translation of the Latin *Hortus* was into French, a fine book, printed by A. Vêrard, at Paris, about 1500, in

† I have lately seen, through the courtesy of Mr. Tregaskis, a Flemish translation entitled *Dē grote herbari 'met al sijn figuerē der Cruyden || om die crachten der Cruyden onderkennen* * * * * *Gheprint Tautwerpen. Bi mi Simon Cock 1547.* Folio, Gothic letter, double columns. The text is that of the *Herbarius zu Teutsch*, with the addition of two short treatises by other authors. The figures are chiefly from the *Herbarius*, some from the Latin *Hortus*, some new.

two volumes. It is described by Mr. Macfarlane in his recent monograph on Vêrard, page 70, from Henry VII's copy in the British Museum. A good copy was recently sold in London, which I had the opportunity of inspecting.

The first volume includes Herbs, the second Beasts, Birds, Fishes, and Stones, and the Treatise on Urines. On leaf 1, recto, is the title *Ortus Sanitatis*, translaté de Latin en francois. On the reverse, a large woodcut of an ecclesiastical person seated in a chair, and several other figures. It is reproduced in Mr. Macfarlane's monograph, Plate xxiv, from another work. At the beginning of the Treatise on Urines (on verso of title) is the well-known woodcut of an apothecary's shop, found in many editions of *Ortus Sanitatis*. The woodcuts of plants, animals, and other objects are all taken from the German, with one or two exceptions. It is difficult to prove a negative for a book containing more than a thousand cuts, but I do not think any new drawing of a natural history object is introduced. One curious exception is in the chapter on milk (which comes among the *herbs*, as in *Ortus Sanitatis*!). The German artist had illustrated the subject with a picture of a cow being milked. Vêrard, for some reason, not having this cut, introduced a rough block slightly hacked about, giving a mere shapeless black mass in the impression. The block may have been a mere stop-gap, but the strange thing is that it was printed again in the second edition of this work by Philippe le Noir.

Mr. Macfarlane states that some of the woodcuts of beasts are in the same style as others used in some of Vêrard's books. They are, however, all German, indeed, the art of this book, except the first frontispiece (a stock illustration) is entirely German, and the French artists contributed nothing to the art of natural history illustration.

It will be asked whether the borrowed figures are from German blocks or re-cut in Paris. This question is not easy to answer, because there are so many German editions. The blocks are not the same, nor directly copied from those of the Latin *Hortus* of 1491. They greatly resemble



22. LE JARDIN DE SANTÉ. PHILIPPE LE NOIR. PARIS. (?1539).

[The woodcut was first used in the *Prouffite Champestres* of Crescentius. Paris. 1486.]

those of the so-called Strassburg or Cologne editions. Some blocks might possibly be the same; some look as if they had been touched up; some are quite different. On the whole, I should say that if they are German blocks, they were not used in any edition I have seen. The skeleton and apothecary's shop blocks are also very nearly, but not quite the same as the Strassburg blocks.

The French translation appeared again, printed by Philippe le Noir, in a book without date, but referred by Brunet to the year 1539.

The title is:—Le jardin de sante || translate de latin en fran||coys nouvellement Im||prime a Paris ¶ On les vend a Paris en la rue saint Jacques a lenseigne de la Rose Blanche couronnee.

The second volume has the title, Le traicte des bestes, || oyseaulx, poissons, pier||res precieuses, et urines || du jardin de sante.

The colophon states that it was printed at Paris by Philippe le noir, whose mark occurs at the end of the treatise on herbs.

It is in two volumes, usually bound together, inferior in typography and appearance to Vérard's edition, but having nearly the same illustrations. The cuts of plants and animals re-appear with few exceptions, also the skeleton and apothecary's shop, borrowed by Vérard from the Strassburg press. But there are two interesting decorative cuts which are here reproduced.

That on the title is quite new and interesting, as the first attempt to give a picture of the "Garden of Health," a German conception, embodied by the imagination of a French artist.

On the verso of title is a woodcut of much historic interest. This block, first used, as we see, by Vérard, in 1485, is evidently partly copied from the title page of the *Herbarius zu Teutsch* of 1485. The king is surrounded, not by conventional courtiers, but by the figures of Hippocrates, Avicenna, a man of Jewish physiognomy, and other figures like those of



23. LE JARDIN DE SANTÉ. Paris. Philippe le Noir. (?1539.)

Herbarius. Evidently it was designed for a book of the same kind, possibly for a translation of *Herbarius*, since it only partly agrees with the subject of the book in which it apparently first appeared.†

The smaller cuts are nearly all from Vérard's old blocks, the black mass again does duty for milk. Others are substituted, and curiously enough, some of them are old blocks of Vérard's, much the worse for wear, from such books as the *Prouffitz Champetres*, which Vérard did not use in his own *Jardin de Santé*. There are some purely conventional trees from the same source, and some conventional ornaments. The cuts of plants are terribly degenerated by copying. I have given a figure of Senna, to show how, after being copied a dozen times, it has been degraded and even falsified from the figure of the German *Herbarius*.

This was the last appearance of the true *Hortus Sanitatis*.

Some of the cuts, however, were roughly copied in other books, as in some editions of the Latin poem of Macer, *De viribus Herbarum*, probably printed in France about 1500.

There was never any English translation of the Latin *Hortus Sanitatis*. The origin of the Great Herball has already been explained. But some of the cuts in that book come originally from the Latin work, though borrowed from the French copies.

I have now gone through the history of the three books known as *Herbarius* and *Hortus Sanitatis*, and given, I hope, a general account of the bibliography of the subject. But I am conscious of the many imperfections of the paper, which must only be regarded as a rough sketch, which may be supplemented hereafter. As a rule, I have been sparing of minute bibliographical descriptions, which would occupy much space and are rather suited for reference than for perusal. In most cases the descriptions in the standard books are adequate for those who wish to go more minutely into

† I should conjecture that Vérard may have brought out such a translation, under the name of *Arbolayre* or *Herbier*, since there are editions of these works, of which the printer is not yet identified. But so far as I know, no such edition is recognised as Vérard's.



24. SENNA. Jardin de Santé. Philippe Le Noir. Paris. (? 1539.)

The same figure is used for *Granatum Silvestre*; and is copied from a figure called Citrum in *Hortus Sanitatis*,

the subject. But I would venture to remark, that in literature such as this, a consideration of the subject-matter of the books, and the artistic character of the illustrations is quite as necessary as minute bibliographical details, to give an accurate history of the sequence of different books.

The whole subject forms a chapter in the history of Botany, and a chapter in the history of Wood Engraving, as well as an episode of bibliography. I only express the hope that others better acquainted with those subjects than I am, may devote themselves to clearing up some of the points which still remain obscure.

In conclusion, I have especially to thank our indefatigable Secretary, Mr. Pollard, for the great pains which he has taken in reproducing the illustrations of this paper, and for his kind help in other ways.



a.
Bill
H. H. H.

